



Japanese Researchers Set 56 Gbps Wireless Data Record

by Karl Bode

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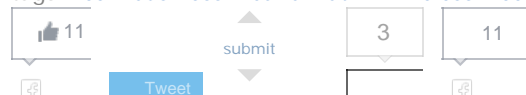
Fujitsu and the Tokyo Institute of Technology claim to have achieved world record wireless transmission speeds of 56Gbps using millimeter wave technology. Granted the record was set in the lab [at a distance of just 10 centimeters](#) (4 inches), but some of the core technology at play could appear in commercial base stations by 2020, potentially as one of the cornerstones of the standard ultimately known as "5G." Numerous companies have made claims that they're advancing 5G deployment, but nobody has reached a consensus on what 5G actually is yet.

This particular hardware uses millimeter-wave (mmWave) frequencies located between 30-300GHz.

Designing CMOS circuits that can modulate and demodulate mobile broadband signals across those frequencies without data loss has proven difficult, so researchers bypassed the problem by building CMOS circuits that split data signals into two -- then transmit them over different frequency ranges - before combining them once again.

"By combining the technologies developed in this project with high-output amplifier technology, used to amplify the signal and increase the transport range, and baseband-circuit technology, used to process ultra-wideband signals, it is possible to increase the capacity of wireless equipment that can be installed outdoors," states the company.

The primary application would be a less-expensive replacement for fiber backhaul linking cell towers to core networks in more rural or difficult urban terrain. The FCC and others have been [exploring the use](#) of millimeter wave technology for years, though hurdles caused by attenuation and environmental degradation of the signal are numerous. As such 2020 is likely an ambitious mark, but the technology retains longer term promise all the same.

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Simple

quote:

nobody has reached a consensus on what 5G actually is yet.

It's just a bullshit marketing term for the masses to go "oh boy my new phone has 5 gees instead of 4, that must be better". Whoever successfully deploys (n+1)g first gets to trumpet it the loudest.

Meanwhile we have to deal with rushed unfinished specs.

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56 Gbps Price

Based on Bright House and others recent internet pricing, 56 Gbps would cost at least a million dollars per month.

+2

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